

REMARKS

Claims 1-20 were pending in the application. Claims 3, 8, 10 and 16-20 have been amended. Claims 21-28 are newly submitted. No new matter has been added. Accordingly, claims 1-28 are currently pending the application. Reconsideration is respectfully requested in view of the amendments to the claims and the following remarks.

Claims 1-4, 8-11 and 15-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,618,806 ("Brown") in view of U.S. Patent No. 5,301,231 ("Abraham").

Claims 5-7, 12-14 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Brown and Abraham, in further view of U.S. Patent No. 6,360,322 ("Grawrock").

Applicant respectfully traverses.

Claim 1 recites a method for integrating encryption functionality into a database system. In particular, the method includes providing at least two functions to support data encryption in a database system, and utilizing the at least two functions within structured query language statements.

Such a method has a potential advantage of providing a straightforward and flexible technique to protect confidential data in a database in a manner that allows integration with well-established, non-proprietary SQL techniques (specification page 8, lines 3-10).

A. Brown Fails To Disclose Utilizing A Function of the Kind Recited in Claim 1 Within a Structured Query Language Statement

Brown discloses a system for authenticating users in a computer network (see Abstract). In operation, a user identification is received. If an authentication rule associated with the user exists, then Brown's system authenticates the user with captured biometric information and a

previously stored biometric information according to an authentication rule associated with the user. Otherwise, Brown's system authenticates the user according with the captured biometric information and the previously stored biometric information according to a system default rule (col. 2, ll. 45-53).

Brown's system includes a SAF server 220 that maintains a database 221 of all users and their biometric credentials (col. 4, ll. 1-3; col. 7, ll. 21-22; FIG. 2). More specifically, all user information is stored in a Microsoft SQL server database, using encryption, such as RSA's RC4 encryption (col. 4, ll. 45-47; col. 7, ll. 31-32).

While Brown discloses storing user information within a Microsoft SQL database using RSA's RC4 encryption, Brown nevertheless fails to disclose utilizing a function (to support data encryption) within a structured query language statement, as required by claim 1. That is, Brown fails to disclose *how* RSA's RC4 encryption techniques are implemented on the user information. See MPEP 2163.07 - "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

The Examiner recognizes that Brown fails to disclose utilizing a function to support data encryption within a structured query language statement. The Examiner, however, asserts that these limitations, as well as further limitations absent from Brown and recited in claim 1, are disclosed by Abraham.

*B. Abraham Fails To Disclose Utilizing A Function of the Kind Recited in Claim 1
Within a Structured Query Language Statement*

Abraham discloses a cryptographic module including a User Defined Function (UDF) facility that provides users with the capability of defining and creating custom functions to meet cryptographic processing needs (see Abstract). In particular, Abraham's cryptographic module includes an upper chip 16 that is pre-programmed with a set of defined cryptographic functions. The UDF facility provides users with the capability of defining and creating custom functions, in addition to the functions pre-programmed into the upper chip 16 (col. 4, ll. 53-59).

Though Abraham discloses permitting a user to define cryptographic functions, Abraham fails to disclose utilizing such cryptographic functions within a structured query language statement. Thus, Abraham, as with Brown, fails to disclose utilizing a function to support data encryption within a structured query language statement, as required by claim 1.

C. The claim has limitations not taught by either reference

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Brown and Abraham fail to disclose utilizing a function (to support data encryption) within a structured query language statement. Consequently, the combination of Brown and Abraham cannot render claim 1 obvious, and the Examiner has not made a *prima facie* showing of obviousness.

D. No Motivation To Combine References

In making a rejection under § 103, the Examiner can satisfy the burden of making a *prima facie* case of obviousness "only by showing some objective teaching." *In re Fritch*, 972 F.2d

1260, 1265 (Fed. Cir. 1992). As has often been noted, evidence of teaching or suggestion is “essential” to avoid the error of hindsight. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

“The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (citation omitted).

The Examiner’s proposed motivation for the combination of Brown and Abraham is that it would have been obvious to have modified Brown et al. “so that data encryption in the database system would have employed two functions. The two functions would have been utilized within SQL as taught by Brown et al”. This does not constitute a showing of some objective teaching – either in the references or in any other source. Instead, it is a classic case of hindsight reconstruction.

Moreover, even assuming, *arguendo*, that the user defined functions of Abraham could be combined with Brown’s system and be utilized within a Microsoft SQL database using RSA’s RC4 encryption, such a combination does not teach or suggest utilizing the user defined functions within a SQL statement as required by claim 1 (emphasis added).

For at least these reasons, Applicant submits that claim 1, and the claims that depend therefrom, are in condition for allowance.

E. Other Independent Claims

Claims 8, 15, 21 and 25 incorporate limitations similar to those of claim 1. Claims 8, 15 and 21 (and the claims that depend therefrom) are also allowable over the combination of Brown and Abraham for reasons corresponding to those set forth with respect to claim 1.

F. Independent Claims 21 and 25

Claim 21 recites a method for integrating encryption functionality into a database system. The method includes defining a function (having a function name) to support encryption of data in a database system using a user-specified password, and utilizing the function within a structured query language statement to control access to the data in the database system including encrypting the data within the database system with the user-specified password. The structured query language statement includes the function name and the user-specified password.

Claim 25 recites a computer readable medium containing program instructions that incorporate limitations similar to those recited in claim 21.

In rejecting claim 5, the Examiner cites column 4, lines 25-57 of Grawrock as disclosing a first function that encrypts user-specified data with a user-specified password.


Even assuming, *arguendo*, that Grawrock discloses a first function that encrypts user-specified data with a user-specified password (which Applicant does not concede) Grawrock nevertheless fails to disclose utilizing a function within a structured query language statement, in which the structured query language statement includes the function name *and* the user-specified password.

Thus, claims 21 and 25 (and the claims that depend therefrom) are allowable over the cited reference for these reasons in addition to those reasons presented above with respect to claim 1.

In view of the foregoing, it is submitted that the claims 1-28 are allowable over the cited references, and are in condition for allowance. Should any unresolved issues remain, the Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,
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August 3, 2005


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